

Scotland's Census

Findings from quality assurance

Census Division
November 2013

Overview

- ▶ Quality assurance approach
- ▶ Documentation of quality assurance
- ▶ Data zone populations
- ▶ Next Steps

Development of methods

- ▶ Carried out agreed series of simple univariate checks at early stages.
- ▶ Benefits of early sight of data was that feedback could be provided to processing team
- ▶ Developed systems and tools to be used throughout process and for dissemination of quality information

Quality Topic Reporting

- ▶ Based on set of primary and derived variables which are used to produce tables in release 2
- ▶ Assumption that trends and patterns in raw census data will be indicative of full dataset
- ▶ Collating information in one place to draw on at later stages

What did we find?

- ▶ Processing had missed out some variables – back to the beginning
- ▶ What we expected - respondents don't do what you always expect
- ▶ Initial findings raised issues with coding and ways in which some questions were answered

Individual questions 2011

4 On the 27 March 2011, what is your legal marital or same-sex civil partnership status?

- | | |
|--|--|
| <input type="checkbox"/> Never married and never registered a same-sex civil partnership | <input type="checkbox"/> In a registered same-sex civil partnership |
| <input type="checkbox"/> Married | <input type="checkbox"/> Separated, but still legally in a same-sex civil partnership |
| <input type="checkbox"/> Separated, but still legally married | <input type="checkbox"/> Formerly in a same-sex civil partnership which is now legally dissolved |
| <input type="checkbox"/> Divorced | <input type="checkbox"/> Surviving partner from a same-sex civil partnership |
| <input type="checkbox"/> Widowed | |

20 Do you have any of the following conditions which have lasted, or are expected to last, at least 12 months?

◆ Tick all that apply.

- ☐ Deafness or partial hearing loss
- ☐ Blindness or partial sight loss
- ☐ Learning disability (for example, Down's Syndrome)
- ☐ Learning difficulty (for example, dyslexia)
- ☐ Developmental disorder (for example, Autistic Spectrum Disorder or Asperger's Syndrome)
- ☐ Physical disability
- ☐ Mental health condition
- ☐ Long-term illness, disease or condition
- ☐ Other condition, please write in

or

- No condition

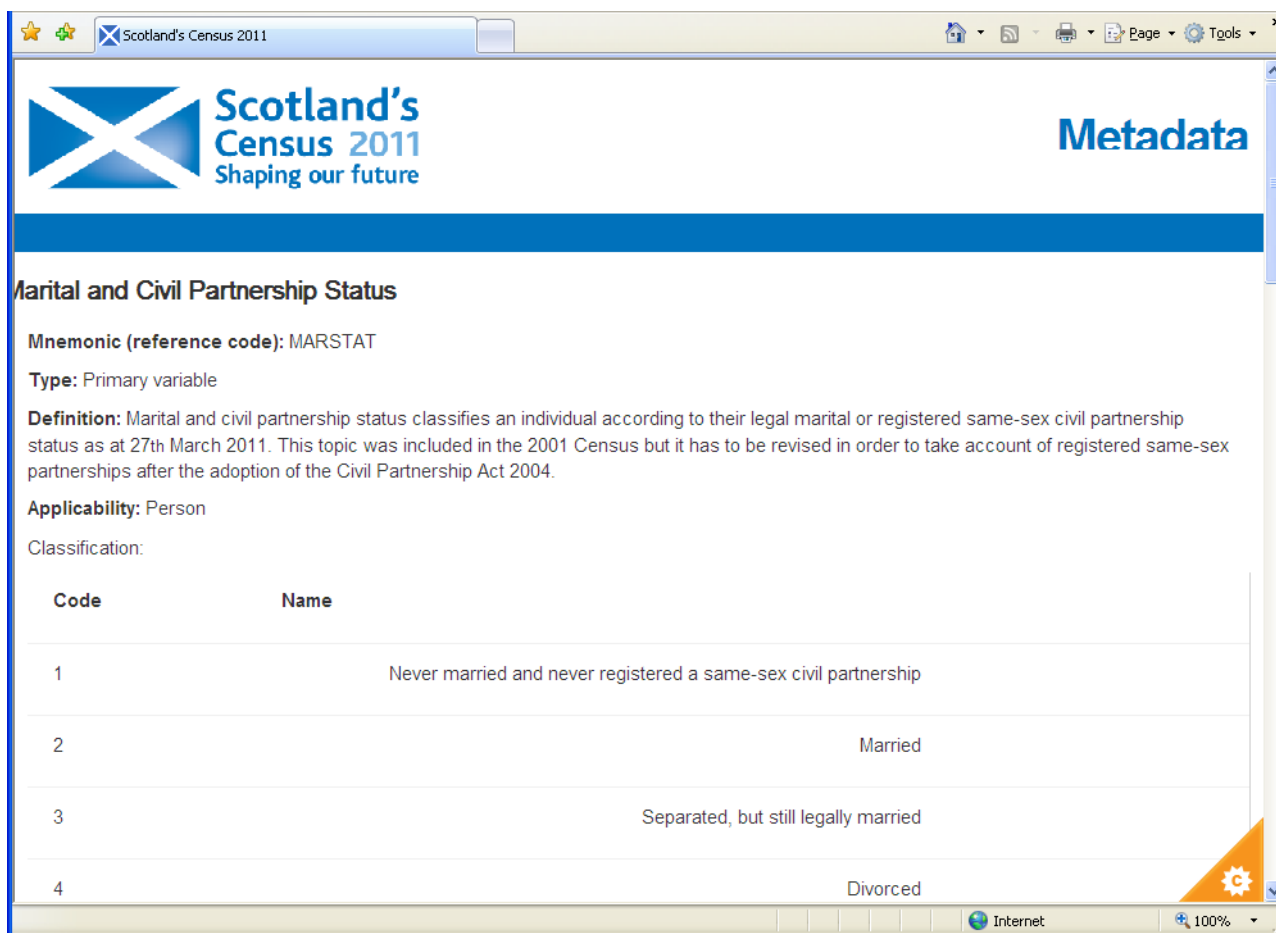
What did we do about it?

- ▶ Carried out more in-depth checks, prioritising key data used in first release
- ▶ Analysed data for issues which would cause problems in later processes, in particular edit and imputation
- ▶ Recoded some text responses including ethnic group and language
- ▶ Sometimes nothing – but will need to report quality to users

Quality Assurance panels

- ▶ Met with internal quality assurance working group to discuss approach to quality assurance
- ▶ External panel
 - provided knowledge and comparator data
 - provide a source of local contact
 - provide insights to National Records of Scotland (NRS) on final results

Metadata available online



The screenshot shows a web browser window with the address bar displaying "Scotland's Census 2011". The page header features the Scotland's Census 2011 logo (a blue saltire) and the text "Scotland's Census 2011 Shaping our future" on the left, and the word "Metadata" in a large blue font on the right. Below the header, the section "Marital and Civil Partnership Status" is displayed. Under this section, the following information is provided:

- Mnemonic (reference code):** MARSTAT
- Type:** Primary variable
- Definition:** Marital and civil partnership status classifies an individual according to their legal marital or registered same-sex civil partnership status as at 27th March 2011. This topic was included in the 2001 Census but it has to be revised in order to take account of registered same-sex partnerships after the adoption of the Civil Partnership Act 2004.
- Applicability:** Person
- Classification:**

A table follows, showing the classification codes and their corresponding names:

Code	Name
1	Never married and never registered a same-sex civil partnership
2	Married
3	Separated, but still legally married
4	Divorced

The browser window includes standard navigation buttons (back, forward, home, etc.) and a status bar at the bottom showing "Internet" and a zoom level of "100%".

Quality Assurance Pack

- ▶ To accompany the first release of population and household statistics, National Records of Scotland published detailed data used in the quality assurance process
- ▶ The following slides are extracts from the pack

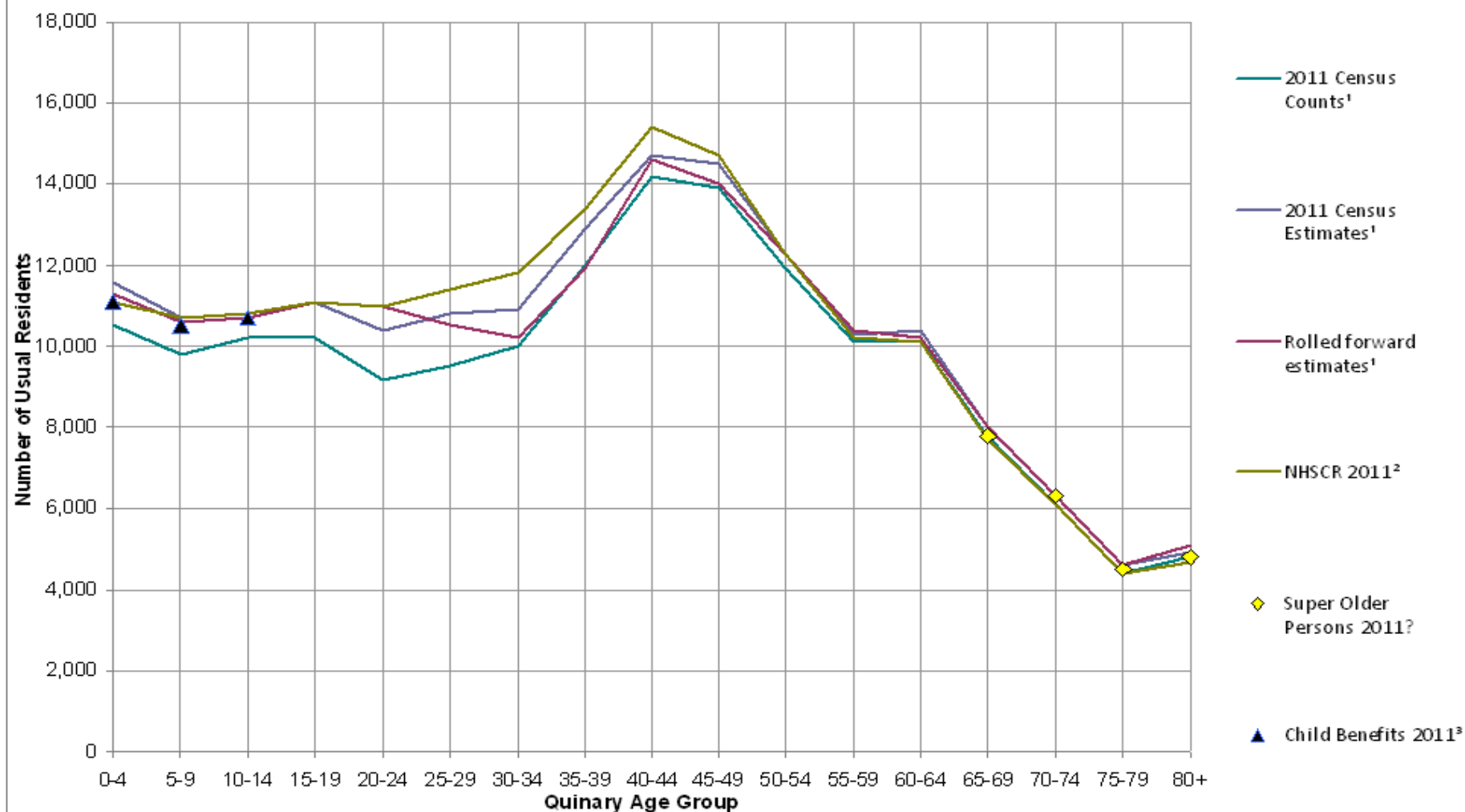
All persons - West Lothian

Age	2011 Census Counts ¹	2011 Census Estimates ¹	Rolled forward estimates ¹	NHSCR 2011 ²	Child Benefits 2011 ³	Super Older Persons 2011 ⁴	Response Rates
0-4	10,500	11,600	11,300	11,100	11,100		90%
5-9	9,800	10,700	10,600	10,700	10,500		92%
10-14	10,200	10,800	10,700	10,800	10,700		94%
15-19	10,200	11,100	11,100	11,100			92%
20-24	9,200	10,400	11,000	11,000			89%
25-29	9,500	10,800	10,500	11,400			89%
30-34	10,000	10,900	10,200	11,800			92%
35-39	12,000	12,900	11,900	13,400			93%
40-44	14,200	14,700	14,600	15,400			96%
45-49	13,900	14,500	14,000	14,700			96%
50-54	11,900	12,300	12,300	12,300			97%
55-59	10,100	10,300	10,400	10,200			98%
60-64	10,100	10,400	10,200	10,100			98%
65-69	7,800	8,000	8,000	7,700		7,800	97%
70-74	6,100	6,300	6,300	6,100		6,300	97%
75-79	4,400	4,600	4,600	4,400		4,500	97%
80+	4,800	4,900	5,100	4,700		4,800	97%
Total	164,700	175,100	172,900	177,000	32,300	23,300	94%

Source: National Records of Scotland¹, National Health Service², HM Revenue and Customs³, Department for Work and Pensions⁴

Descriptive metadata for tables in this pack is provided in the Explanatory Materials tab

All persons - West Lothian



Quality Topic Report Format

- ▶ 1: Questions & Variables Covered
- ▶ 2: Tracking Missing Data
- ▶ 3: Data Changes through process
- ▶ 4: Internal Analysis
- ▶ 5: External Analysis
- ▶ 6: Known Quality Issues (may only be relevant for some variables)
- ▶ 7: Definitions and references
- ▶ 8: Documentation

Current work and next steps

This work requires complex derived variables or data amendments:

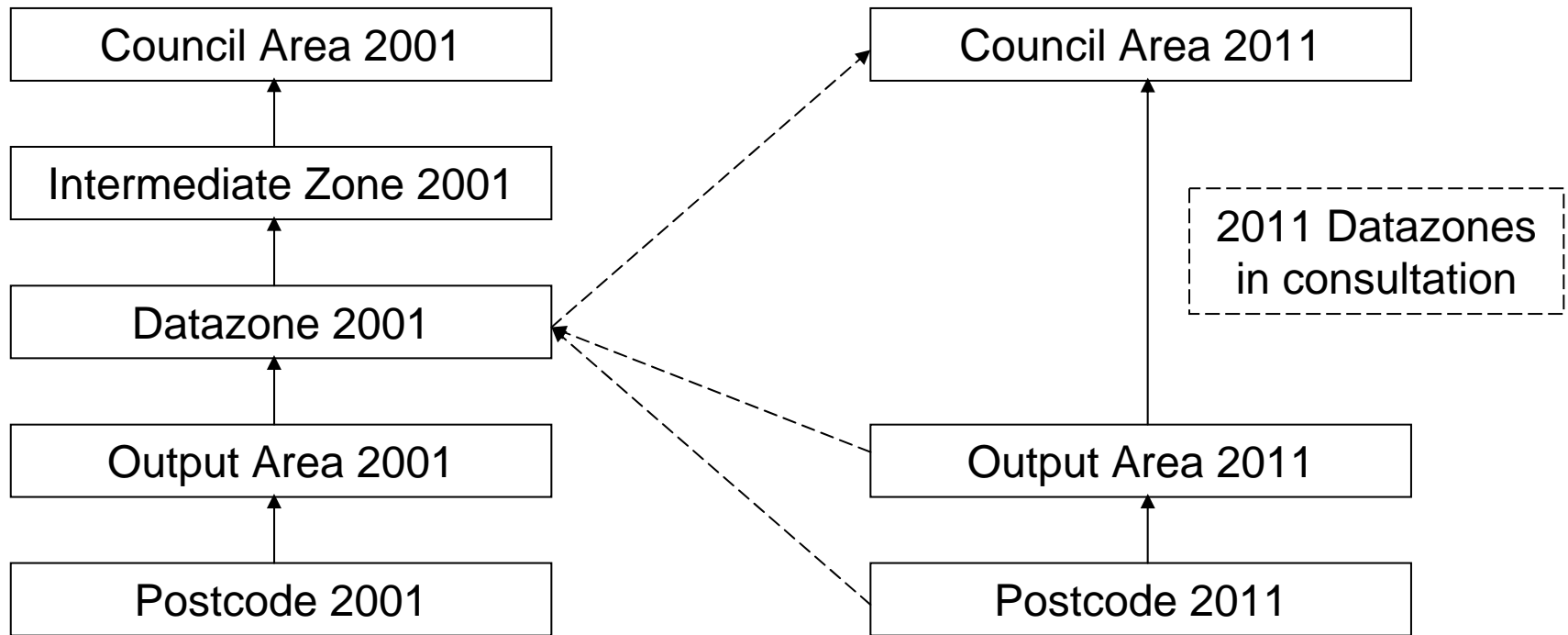
- ▶ Long term health conditions
 - ▶ Central heating
 - ▶ Migration
 - ▶ Workplace
-
- ▶ Next steps: A range of products, Quality Assurance papers, Metadata, Item level imputation rates and deterministic edit rates

Data zone populations

2001 Data zones can be created by either aggregating up:

- 2011 postcodes
- 2011 output areas.

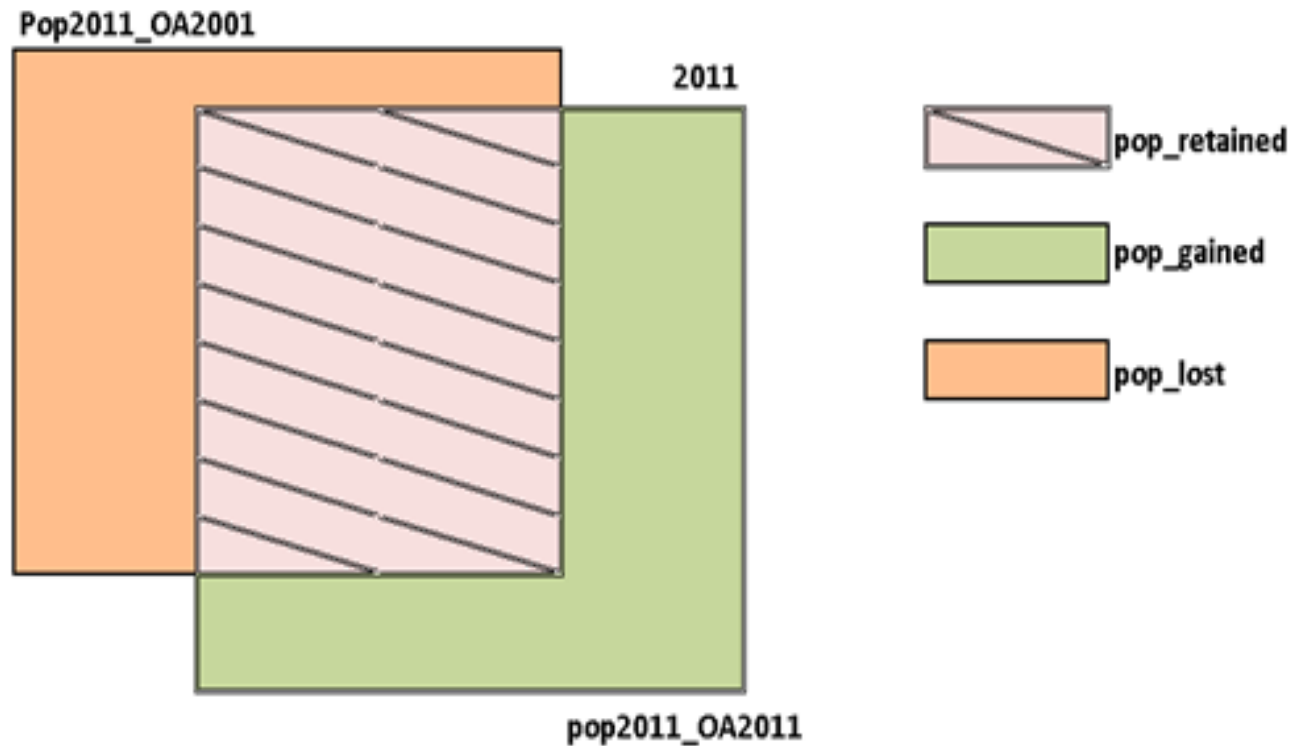
Geography Hierarchy: Datazones



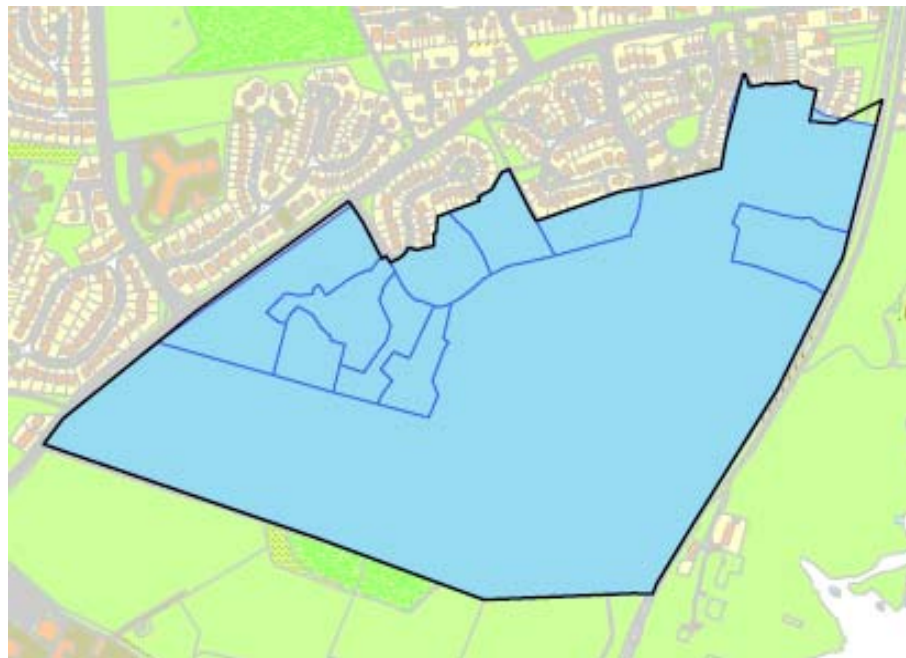
↑ = nests exactly within higher geography

↑ = best fit

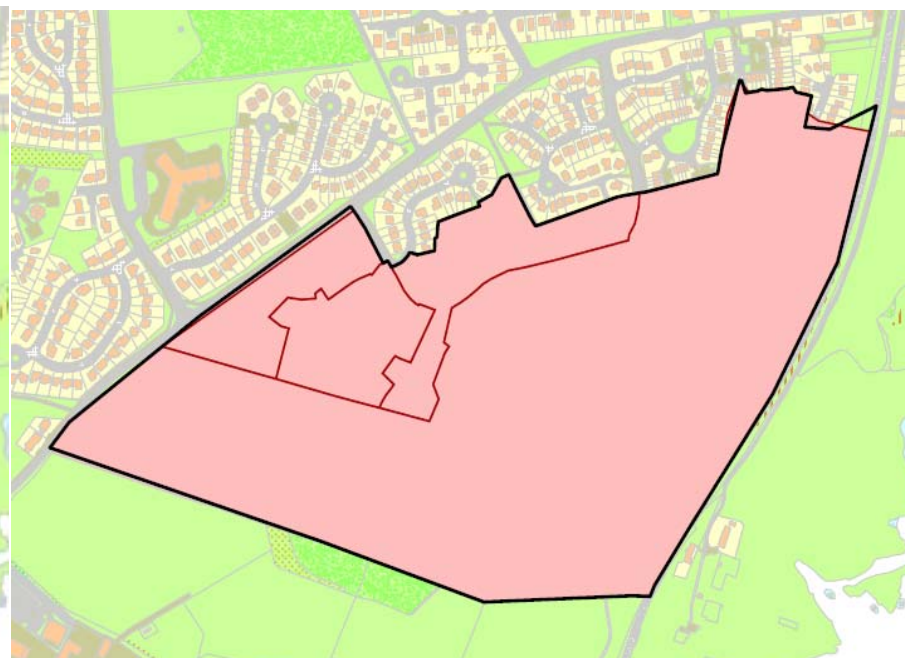
An illustration



2 versions of data zone creation

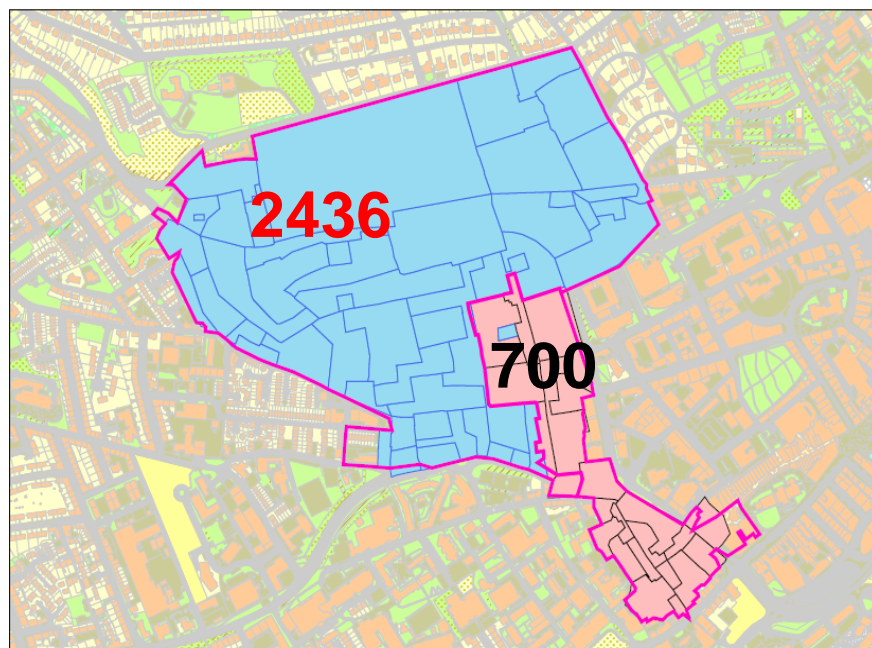


2011 Postcodes

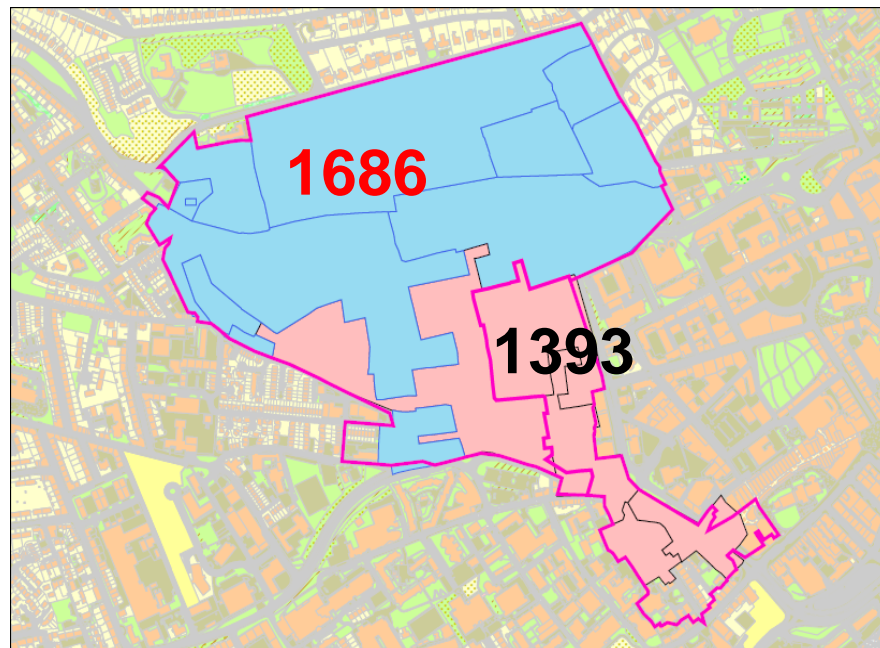


2011 Output areas

Geographic differences



2011 Postcodes



2011 Output areas

- Data zone boundary
- S01001102
- S01001109

Uses of data zone population statistics

- ▶ If you are looking to do a comparison of population or number of households over the years, the data set created from 2011 postcodes would be your best option.
- ▶ However, for all future releases of the census data zone estimates will be of those aggregated from 2011 Output areas.
- ▶ Data zone boundaries are currently being reviewed

Additional data published

More information can be found within the Population Estimates Special Areas section of the National Records of Scotland website

► [2001 Data zones: Population and Household Estimates – Comparison between 2001 and 2011 Censuses](#)

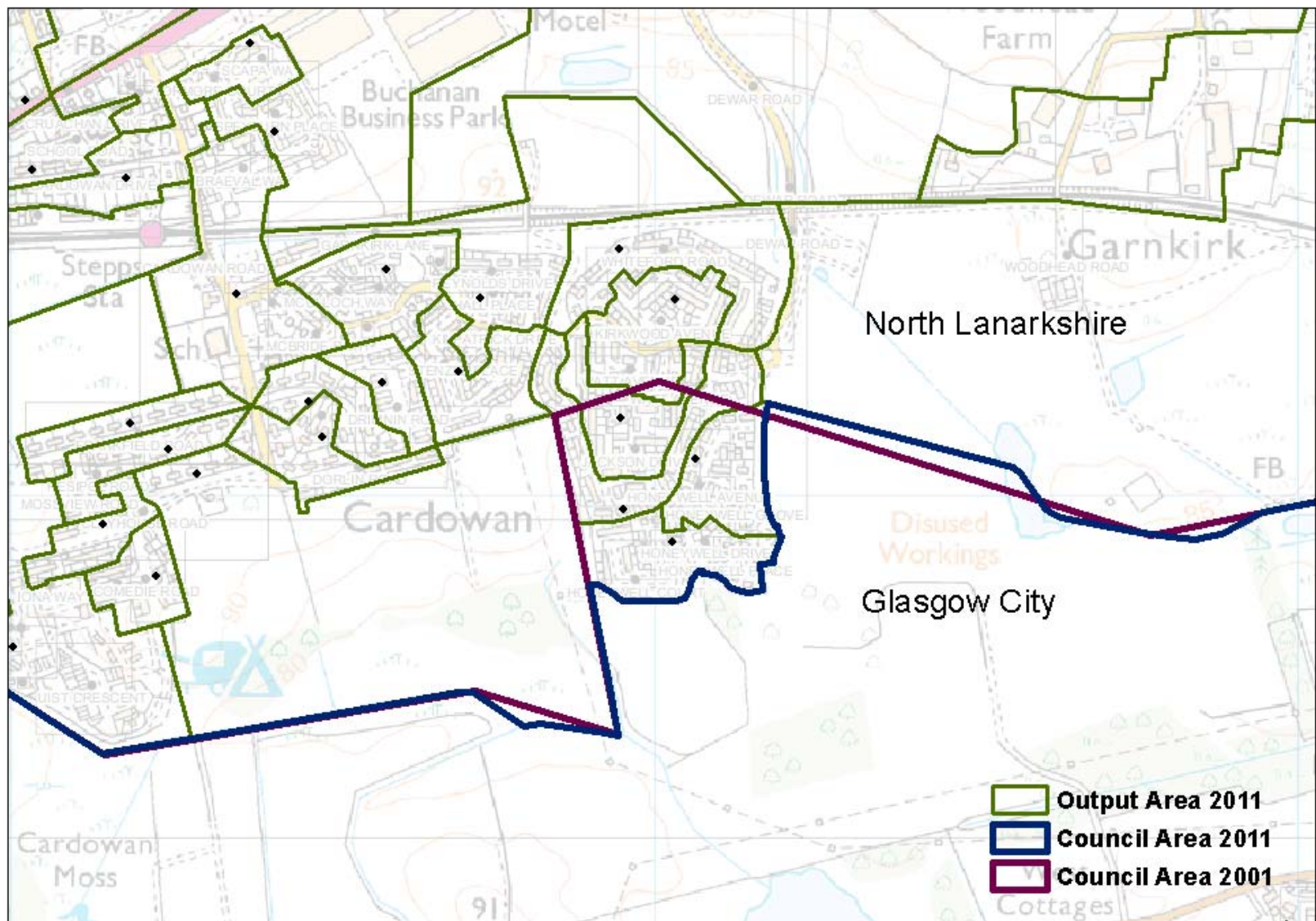
Some issues to be aware of

- ▶ The total population of datazones in a council area does not exactly match the published council area population

Difference in council population

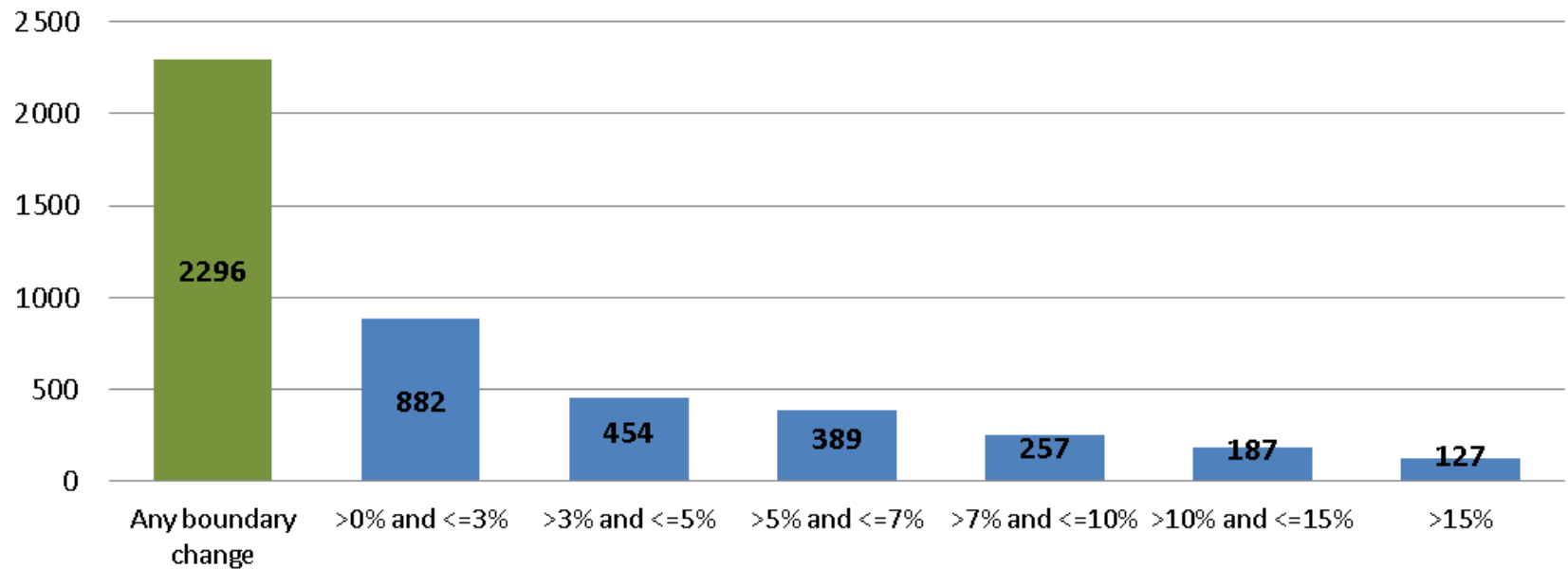
▶ Glasgow/North Lanarkshire	617
▶ East Ayrshire/East Renfrewshire	127
▶ Aberdeen City/Aberdeenshire	102

Glasgow City and North Lanarkshire Council Area boundary change 2001 to 2011



Degree of difference due to boundary changes

Datazone by degree of boundary changes



Ongoing work – description of implications for characteristics

- ▶ Investigating extent to which characteristics of data zones will differ between boundaries
- ▶ Initial findings that most areas have similar characteristics
- ▶ Areas where there are more marked differences are those where a communal establishments

Further information

- ▶ All data available at: www.scotlandscensus.gov.uk
- ▶ Also sign up there for our e-newsletter

- ▶ Media enquiries: 2011Comms@gro-scotland.gsi.gov.uk
- ▶ General enquiries: Customer@gro-scotland.gsi.gov.uk